

Eighth GEBCO Science – presentation abstract

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Oral presentation title: Virgin Dive of JHOD's new AUV to a volcanic caldera and new findings

Authors: Tsuyoshi YOSHIDA^{1,2}, Hiroki MINAMI¹, Taisei MORISHITA¹, and Shin TANI¹

1. Hydrographic and Oceanographic Department, Japan Coast Guard, Tokyo, Japan
2. Secretariat of the Headquarter for Ocean Policy, Cabinet Secretariat, Tokyo, Japan

Abstract

The Hydrographic and Oceanographic Department, Japan Coast Guard (JHOD) carried out bathymetric surveys with its new AUV “GONDOU” last month. The dive site is located at the top of a volcanic seamount with a summit depth about 300 m.

In 2012, the survey vessel “Takuyo” of JHOD mapped the seamount with EM122 whose beam size is 2 degree square, and obtained a bathymetric map with ~ 10 m spatial resolution. Its water column image indicates some hydrothermal activities around a volcanic caldera at the top of the seamount.

During its virgin dive in September 2013, the AUV “GONDOU” with R2sonic 2022 obtained a super-high-resolution (~ 1 m) bathymetric map around the volcanic caldera. Its sidescan sonar captured fine images of hydrothermal plumes. Several XCTD casts were also conducted and one cast succeeded to hit a plume to get an anomalous temperature rise about 2 degrees.

Details of some results of this virgin dive will be presented in this report.